

ABSTRACT

A location of a vehicle is monitored using a predefined geo-fencing boundary within a coordinate system. An angle between a selected straight edge of the boundary and an axis of the coordinate system is determined, and the boundary is rotated by the angle such that the selected straight edge of the rotated boundary is parallel to the axis of the coordinate system. Subsequently, a set of coordinates associated with a particular location of a monitored device are identified and rotated by the previously determined angle. The rotated set of coordinates is then compared to the rotated boundary to determine a location of the monitored device with respect to the selected boundary. This information can be used to determine whether the vehicle remains within the predefined geo-fencing boundary.

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